Client Workbook

For

Development of a Formal Proposal
Process Safety Management (PSM)
Risk Management Program (RMP)

Ammonia Refrigeration

LAMB GROUP LLC

Safety, Health, & Environmental Regulatory Consultants
Since 1972

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About Your Company

Company Name _____

Mailing Address _____

Physical Location _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Whom should we contact regarding this proposal?

_____ _____

name title

Who is authorized to approve this proposal? z same as above, or as shown below

_____ _____

name title

About The Proposal You Are Requesting

A complete Process Safety Management Program MUST include all the elements listed below to comply with OSHA's 29 CFR 1910.119 Standard.

If you desire a quote for all elements, check only Box One.

If you desire a quote for specific elements ONLY, check each individual box for that element.

☐ Complete PSM Program, which includes all elements listed below.

☐ PSM Policies and Procedures, including Employee Participation, Training, Contractor Requirements, Pre-Startup Safety Review, Mechanical Integrity, Non-Routine Work Authorization, Management of Change, Incident Investigation, Emergency Planning, Compliance Audits, and Trade Secrets.

☐ Process Safety Information, including Glossary of Terms, Information on Chemical Hazards, Information on Process Technology, Summary of Equipment Design and Operating Specifications, Standards and Practices

☐ Piping and Instrument Diagrams, including Field Tracing and verification and production of full-color drawings detailing floor plans, production area layouts with equipment positioned, engine room layout, detailed P&IDs for all components showing all piping, valves, gauges, control panels and instruments complete with ID labeling

☐ Standard Operating Procedures, including Normal Operating Parameters and Consequences of Deviation, Initial Start-up of Uncharged System, Normal Daily/Weekly Start-up and Shutdown of System and of each Component, Emergency Shutdown of System and each Component, Routine Maintenance Procedures

- ☐ Initial Awareness Training, including PSM Orientation, Policies and Procedures under PSM, Safety and Health Hazards, Personal Protection, Safe Practices, Operating Procedures, Emergency Procedures
- ☐ Process Hazard Analysis, including preparation of HAZOP guidelines and software, briefing of PHA Team, leading of PHA Team, Consideration of Process Hazards, Incidents, Controls, Consequences of Failure, Human Factors, Facility Siting and Effects of Control Failure, and documentation of Findings and Recommendations
- ☐ Mechanical Integrity, including specific procedures for maintaining, inspecting and testing each component - including Preventive Maintenance (PM).

EPA Risk Management Plan

- ☐ Risk Management Plan - provide complete site-specific Risk Management Program for Anhydrous Ammonia as required by EPA 40 CFR Part 68 Chemical Accident Prevention Provisions Risk Management Program including the written Management Plan, Risk Hazard Analysis, endpoint release modeling, and registration.

Other Related OSHA PSM and EPA RMP Services

- ☐ Root Cause Analysis Incident Investigation Training - training for the PSM Incident Investigation Team Members in formal investigative techniques including data trending, problem solving, fact finding, classification, collecting and preserving data, determining the correct root causes, witness interviewing skills, corrective action, developing recommendations, and writing an effective recommendation report.
- ☐ Three-year PSM Compliance Audit - conduct a complete compliance audit of the facility Process Safety Management Program to evaluate compliance with the 14 required elements of the OSHA PSM Standard and the EPA Risk Management Program to be prepared for an OSHA PSM or EPA RMP Audit.
- ☐ Five-year Independent Mechanical Integrity Inspection - perform a complete inspection of all components of the refrigeration system(s) in compliance with recommended and generally accepted good engineering practices, IIAR, ASHRAE, ANSI, and ASME. A formal report will be provided with findings and recommendations noted during the inpection.
- ☐ Ultrasonic Nondestructive Testing for erosion/corrosion of the system components, including vessels and piping. (Lamb Group has performed Ultrasonic Nondestructive Testing for more than 150 ammonia refrigeration facilities nationwide.)

About Your Ammonia Refrigeration Process

*Note: A "**process**" can be made up of one or more "**systems**", provided those systems are interconnected or located in such a way that a catastrophic release from one system could potentially affect another.*

A. What is the total ammonia capacity in your process, including all vessels, piping, and storage? _____ lbs.

B. What is the approximate ammonia inventory of your system? _____ lbs.

C. How many separate buildings does your process occupy? _____

D. How many floors (counting the roof as a floor) does your system occupy? _____

E. How many refrigeration operators do you employ? _____

F. How many maintenance personnel are involved in the process? _____

G. For tracing purposes estimate how much of the valves and piping are located on the roof? _____ %

H. Is your system controlled or monitored by computer software? _____

For each system, indicate the number of components you have

Equipment	No. of Components
High Pressure Receivers	
Controlled Pressure Receivers	
Receiver Transfer Tank	
Thermosyphon Receiver	
Screw Compressors	
Screw Compressor Oil Separator	
Screw Compressor Thermosyphons	
Reciprocating Compressors	
Reciprocating Compressor Oil Separators	
Rotary Compressors	
Rotary Compressor Oil Separators	
Master Oil Scrubber	
System Oil Separators	
Evaporative Condensers	
Shell & Tube Condensers	
Intercoolers	
Recirculators	
Accumulators	
Suction Traps	
Pumper Drums	
Surge Drums	
Auto Purgers	
Oil Pots	
Ammonia Pumps	
Heat Exchangers	
Votators	
Contherms	
Chillers (Shell & Tube)	
Chill Water Tank	
Chillers (Plate and Frame)	
Ice Machines	
Other (Describe)	
Other (Describe)	
Other (Describe)	
Ice Cream Hardner	
Make-up Air Units & ACU Air Units	
Evaporative Units (Cooling)	
Blast Units (Indicate No. of Cells)	

Confirmation of Accuracy

Having reviewed the information provided in this workbook, including all relevant attachments, I confirm that this information accurately reflects current conditions and documentation within this facility and should provide reliable basis for the preparation of a formal proposal for the scope of work and cost of producing a Process Safety Management compliance program. Any omission of information or incorrect or incomplete description may invalidate the proposal or result in further costs once the project begins.

_____ _____

Signature Date